

REMARKS

Claims 98, 101 and 102 have been amended and new claims 107-109 have been added. Accordingly, claims 1-4, 6-7, 23-28, 30-32, 58-59, 66-68, 70-71, 98, 101-102 and 107-109 are currently pending.

I. Amendments:

Claims 98, 101 and 102 have been amended to clarify that "the aqueous solution of alkali metal silicate" recited in these claims is referring to component (i) in claims 1, 23 and 26, respectively. No new matter has been added.

New claims 107-109 depend from claims 1, 23 and 26, respectively, and recite that the pH of component (ii) is up to 10.6. Support for these claims can be found in the specification at page 3, line 28. No new matter has been added.

II. The Invention:

The invention is directed to aqueous polysilicate microgels and a process for preparing same, which allows for the preparation of high-concentration polysilicate microgels with high stability. The polysilicate microgels are particularly useful as drainage/dewatering aids.

III. Objections/Rejections:

Rejections:

On pages 2-3 of the Office Action, claims 98, 101 and 102 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite because the phrase "the aqueous solution of alkali metal silicate" lacks proper antecedent basis.

Applicants respectfully submit that there is proper antecedent basis and the amendments to those claims have clarified that the phrase is referring to component (i) of the respective independent claims.

Therefore, it respectfully requested that the rejections under 35 U.S.C. 112, second paragraph, be withdrawn.

On page 5 of the Office Action, claims 1, 4, 6, 23-24, 26-27, 30, 32, 58-59, 66-68, 70-71, 98 and 101-102 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 5,116,418 to Kaliski ("Kaliski"). This rejection is respectfully traversed.

Kaliski discloses a process for manufacturing of structural aggregate pigment products from aqueous dispersions of particulate material treated with in-situ formed complex functional microgels. The particulate material can contain very fine particle kaolin clay in a slurry. The microgel can be formed from an aqueous alkali metal silicate and an alkali-metal aluminate and/or zincate.

Applicants are unaware of any disclosure, suggestion or teaching by Kaliski of using a silica-based material having a pH within the range of from 7 to 11 (or 6.5 to 11) which is selected from the group consisting of silica-based sols, fumed silica, silica gels, precipitated silicas and acidified solutions of alkali metal silicates, as presently claimed. Applicants further submit that there is no reason for one of ordinary skill in the art, based on the teachings of Kaliski, to use a silica-based material having a pH within the range of from 7 to 11 (or 6.5 to 11), as presently claimed.

The Office Action contends that Kaliski discloses microgels containing both silica-based material and aqueous sodium silicate, as claimed, where the silica-based material is in the form of "very fine particle kaolin clay slurries ...which are aluminosilicates, i.e., silica-based material having a pH of 7 to 11". Applicants respectfully disagree.

Applicants submit that Kaliski discloses and teaches that the kaolin clay is the particulate material that is precipitated with the in-situ formed microgel to form the structural aggregate pigment product and not part of the microgel. It is respectfully

submitted that Kalinski specifically distinguishes the kaolin clay from the materials that form the microgel. In that regard, Kaliski continually teaches that the in-situ formed microgel accounts for only 0.5 to 10 wt% of the pigment product and includes an alkali-metal silicate and an alkali-metal aluminate or zincate (See Kalinski at col. 6, lines 32-38; and col. 9, lines 35-43), while kaolin clay is an example of the aggregate pigment material which is part of the predominant phase (See Kalinski at col. 6, lines 64-65; and col. 9, lines 35-43). Thus, applicants submit that Kalinski teaches away from using kaolin clay to form the microgel.

Moreover, even assuming *arguendo* that Kalinski discloses that the kaolin clay could be used to form the microgel, which Applicants deny, Applicants are unaware of any disclosure, teaching or suggestion of forming a microgel from a mixture that includes a silica-based material with a pH of 7-11 (component (ii)), as presently claimed. The Office Action indicates that the pH values and the SiO₂:M₂O ratio of the components would have been inherent to those available. Applicants respectfully disagree.

If the claimed pH is inherently disclosed by the cited reference, it must be necessarily present and a person of ordinary skill in the art must recognize its presence. *Crown Operations Intern. Ltd. V. Solutia Inc.*, 289 F.3d 1367, __, 62 U.S.P.Q.2d 1917, 1922-23 (Fed. Cir. 2002) (citing *In re Robertson*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999)) (Emphasis added). Inherency "may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.* at 1923. (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981)).

Applicants respectfully submit that the claimed pH is not a necessary result from general description of materials by Kalinski. Although Kalinski discloses pH ranges from 3.5 to 12 for the overall flocculated dispersion, Applicants are unaware of any disclosure, teaching or suggestion of the individual silica-based material, i.e., component (ii), as presently claimed.

Therefore, it is respectfully requested that the rejections under 35 U.S.C. 103(a), in view of Kaliski, be withdrawn.

On pages 6-7 of the Office Action, claims 1, 2-13, 23-32, 58-63, 70-71, 98, 99 and 101-102 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 7,169,261 ("the '261 patent").

The Office Action contends that "although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims encompass and/or substantially overlap the '261 claims."

Applicants reserve the right to address this rejection and to consider filing a terminal disclaimer, in the event that this is the only remaining rejection and the case is otherwise allowable.

IV. Conclusion:

Applicants respectfully submit that the application as amended, including claims 1-4, 6-7, 23-28, 30-32, 58-59, 66-68, 70-71, 98, 101-102 and 107-109, is now in proper form for allowance, which action is earnestly solicited. If resolution of any remaining issue is required, the Examiner is invited to contact applicants' undersigned attorney at the telephone number provided below.

Respectfully submitted,



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